Large and small-scale astrophysical dynamos

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From numerical simulations of three-dimensional chaotic flows we (Cattaneo, Hughes & Thelen) show how the saturated, statistically steady dynamo state depends crucially on the initial conditions. Furthermore we analyse in detail the saturation of the turbulent α-effect and show that depends strongly on the magnetic Reynolds number. This is a result of potentially enormous significance for astrophysical dynamo theory.